Claims

1. A method for the accumulation and stabilization of DNA-containing components, characterized in that DNA-containing sample material is partially lysed in a lysis-binding buffer system comprising at least one lysis reagent and at least one solid adsorbent and the DNA-containing components are bound to the adsorbent, the surface of the adsorbent being functionalized with polymers consisting of a carrier polymer and/or acid component(s) of polymerizable acids or derivatives of polymerizable acids.

2. The method according to claim 1, characterized in that polymerizable acids, preferably acrylic acids or methacrylic acids, or derivatives of polymerizable acids, preferably acrylamide, methacrylamide or acrylic esters, are used as carrier polymer.

3. The method according to claim 1 or 2, characterized in that as polymers, copolymers of carrier polymer and acid component are used, the latter being selected from sulfonic acids, phosphonic acids or carboxylic acids.

4. The method according to claim 3, characterized in that copolymers with a monomer ratio of from 9:1 to 1:1, preferably from 9:1 to 3:1, of carrier polymer to acid component are used.

5. The method according to claim 3 or 4, characterized in that the content of acid component in the reaction mixture is between 10% w/w and 50% w/w, preferably between 10% w/w and 25% w/w.

6. The method according to any of claims 1 to 5, characterized in that a vinylsulfonic acid derivative, preferably styrenesulfonic acid, is used as acid component.

7. The method according to any of claims 1 to 6, characterized in that the adsorbent consists of organic or inorganic solid carrier materials to which the polymers are bound, preferably polystyrene, polysulfones, modified or non-modified silica gels, polyesters, polycarbonates, polyamides, or polymers bearing hydroxy groups, preferably cellulose, or polyvinyl alcohol derivatives.

8. The method according to claim 7, characterized in that microparticles with an average diameter of 1-100 μm, preferably 1-30 μm, are used as adsorbent.

9. The method according to claim 7 or 8, characterized in that magnetic microparticles are used as adsorbent.

10. The method according to any of claims 1 to 9, characterized in that the lysis reagent comprises at least one detergent in mixture with at least one native carbohydrate, preferably an oligosaccharide, and/or at least one complexing agent.

11. The method according to claim 10, characterized in that a non-ionic detergent is used, preferably derivatives of the Triton, Tween, NP-40 series or mixtures thereof.

12. The method according to claim 10, characterized in that a disaccharide, preferably saccharose, is used as oligosaccharide.

13. The method according to claim 10, characterized in that EDTA is used as complexing agent.

14. The method according to any of claims 10 to 13, characterized in that the lysis reagent comprises Triton X-100, preferably 1% v/v, saccharose, preferably 2.5 M, and/or EDTA, preferably 0.5 M.

15. The method according to any of claims 1 to 14, characterized in that biological material is used as DNA-containing sample material, preferably blood, leukocyte fractions, buffy coats, urine, serum, plasma, cell suspensions of microorganisms, or digested material of plants.

16. The method according to claim 1, characterized in that cell organelles, preferably cell nuclei, mitochondria or chloroplasts, DNA-containing protein complexes, or DNA-containing viruses are accumulated as DNA-containing components.

17. The method according to any of claims 1 to 16, characterized in that the DNA-containing complexes are removed from the solid adsorbent using aqueous salt solutions preferably containing alkali and alkaline earth halides.

18. The method according to claim 17, characterized in that alkali and/or alkaline earth chlorides, preferably lithium and/or calcium chloride, are used at a concentration of from 0.01 to 3.0 M, preferably at a concentration of from 0.01 to 1.5 M.